

Fales' Patent Variable Bench Plane.

The accompanying illustrations, Figs. 1 to 6, represent a carpenter's tool which is being put on the market by Otis A. Smith, of Rockfall, Conn.

It is, as will readily be perceived, a combination tool, and is described as constituting a carpenter's plow, front and back fillister, matching planes of all sizes, sash planes of various kinds, dados, hollows and rounds, side and center beads, nosing planes, quarter rounds, ogee casing molds, snipe's

bill, side rabbet, V plane, etc. It is a tool which is evidently the result of a great deal of thought and practical knowledge, and gives an exceptionally complete combination plane, the manufacturer claiming that it covers a wider range of combinations than any other plane on the market.

Fig. 1. gives a general view of the main parts of the tool, with the auxiliary stock attached to the main stock, and to which all the various forms and cutters are to be attached. Attention is directed to the advantage of the cutter in the auxiliary stock, as it can be moved on the bars and set to cut any width of tonguing, and used to advantage for many other kinds of work. In many cases the wood fence will adjust the instrument without having to slide the auxiliary stock on the cross bars. In some operations it will be necessary to reverse, or turn end for end, the wood fence of this auxiliary stock, in order to bring it close to or under the cutter in the main stock, and this can be done without difficulty.

Fig. 2 represents the fillister and grooving attachment, with reversible and adjustable wood fence, and constituting a grooving plane of all sizes. By reversing the wood fence, a front and back fillister can be made. Fig. 3 shows a detached round form and cutter. These are made nine in a set, from $\frac{3}{16}$ to $1\frac{1}{2}$ inches. Fig. 4 represents a detached hollow form and cutter, made in sets of nine, from $\frac{3}{16}$ to $1\frac{1}{2}$ inches. Fig. 5 shows a detached bead form and cutter. These are made from $\frac{1}{4}$ to $\frac{3}{4}$ inch. Fig. 6 represents an adjustable plow and dado spur. The following are the parts which constitute a full set: Main stock; auxiliary stock; back bar and two cutters; front bar and gauge stop; dado forms and cutters, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and $1\frac{1}{2}$ inch; grooving and fillister attachment; fillister cutter; side bead forms and cutters, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1 and $1\frac{1}{2}$ inches; round

forms and cutters, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{3}{4}$ inch; center bead forms and cutters, $\frac{1}{4}$, $\frac{3}{16}$, $\frac{1}{2}$, $\frac{5}{8}$ and $1\frac{1}{2}$ inch; hollow forms and cutters, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1 and $1\frac{1}{2}$ inches; round

stock, cross bars, gauge stop and reversible wood fence with a $\frac{3}{4}$ -inch dado form and cutter attached to the main stock, which, by quick and easy adjustment, will operate as a plow, dado, front and back fillister, and tonguing and grooving planes of all sizes.

Price, with $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{3}{4}$ inch forms and cutters, \$6.20, and with the application of cutters at 25 cents each, sash planes of various kinds, claimed to be the cheapest and best made. All parts are accurately made to gauge, and are, therefore, interchangeable. Attention is called

by the manufacturer to the fact that the patented front and back form plates are made of metal, and will not get out of order either by friction, warping, swelling or shrinking, as is the case with wood tools.

The inventor claims for this plane that it is the best carpenter's plow ever invented, for the following reasons: First, every dado acts as a plow, consequently has spurs in advance of the cutter, and will cut as well across as with the grain; second, the dado form being the width of the cutter, allows the instrument to run steadily, without allowing the corners of the cutter to tear out pieces in working curly, cross-grained or knotty wood. The V is a superior attachment; with its peculiar shaped cutter, it cuts as well across as with the grain. One strong recommendation is, that but a comparatively small space is required (8x8x10 inches), when the number of tools contained is considered.

Manufacturing Notes.

The St. John Wood-Working Company, of Stamford, Conn., formerly doing business under the title of St. John, Hoyt & Co., has been incorporated to conduct the sash, door, building and wood-working business.

The Phoenix Iron Works Company, of Minneapolis, Minn., formerly doing business under the same title, has been incorporated for the purpose of manufacturing machinery of all kinds.

The National Foundry & Pipe Works are being erected at Scotdale, Pa. The works will be completed and in operation soon.

The National Machinery Co., of Denver, Col., has been incorporated to manufacture machinery, etc.

George F. Montgomery, of Albany, Ga., intends to erect a planing and molding mill.

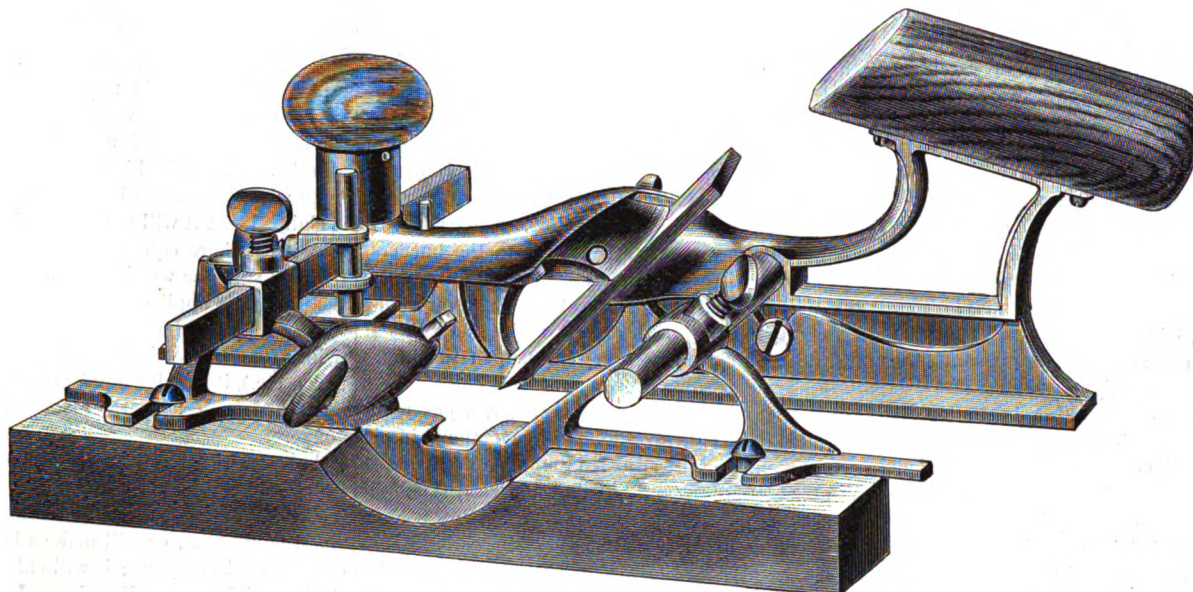


Fig. 1.



Fig. 2.

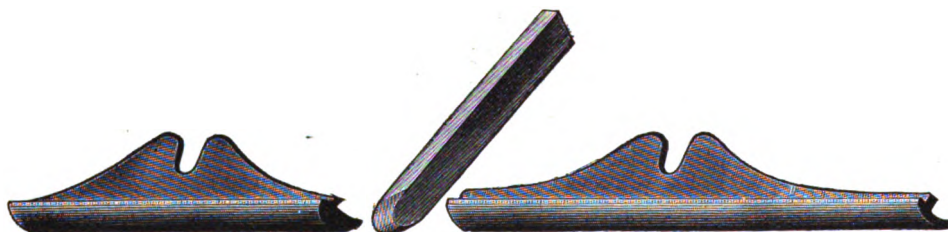


Fig. 3.

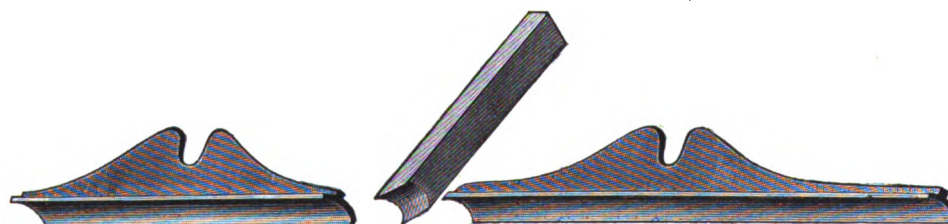


Fig. 4.

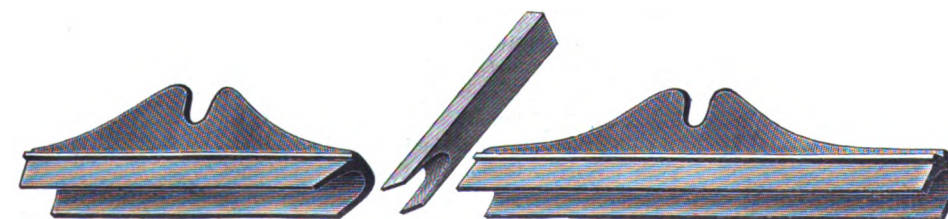


Fig. 5.

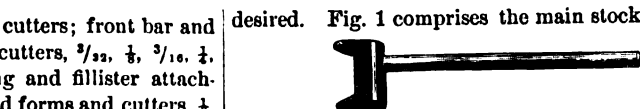


Fig. 6.

desired. Fig. 1 comprises the main stock, auxiliary